

Biofouling Prevention Cases

The LG Sonic Industrial Line has been successfully installed in a wide range of applications, such as cooling towers, clarifiers and treatment plants

Biofouling Prevention in a Cooling Tower

Al Futtaim Cooling district plant in Dubai incorporated the LG Sonic technology into their chemical treatment program to reduce the biocide consumption in the cooling towers and improve the water quality.

Results

Using LG Sonic devices reduced chemical dosage for water treatment and control factors that may cause problems, such as corrosion, scaling, and microbial activity.

- ✔ Up to 69 % reduction in biocide dosage
- ✔ Up to 53% reduction in anti-scalant dosage
- ✔ Microbial analysis of the water after tests of satisfactory quality and within specific limits



Biofouling Prevention in a Wastewater Treatment Plant



Several LG Sonic devices were installed in a Wastewater Treatment Plant (WWTPs) in Melbourne, Australia to prevent biofouling. High algae concentrations created problems for process performance and increased operating expenditure for cleaning and maintenance activities.

Results

The LG Sonic devices show a viable solution to prevent biofouling in the balance tanks. Significant operating expenditure related to cleaning maintenance has been saved.

- ✔ Reduction in cleaning and maintenance
- ✔ Less frequent backwash required of tertiary cloth filters
- ✔ Aesthetic improvement in balance tank

Biofouling Prevention in a Clarifier

Several LG Sonic devices were installed in the SAB Miller Clarifier in Tocancipa Brewery, Colombia to control filamentous algae caused by biofouling. The algae attached to the biofilm was identified as suspended and was growing on walls and water channels of the clarifiers, reducing process efficiency and increasing the cleaning efforts of the plant

Results

Extensive testing showed the LG Sonic devices had a significant impact on the filamentous algae and bio-corrosion. Workers at the brewery didn't need to dose hydrochloric acid during maintenance, which resulted in less time required for the maintenance and substantial improvement of safety conditions for workers.



- ✔ Reduction of filamentous algae growth
- ✔ Lower maintenance
- ✔ Reduction of bio-corrosion on the clarifiers' walls

Biofouling Prevention in a Water Treatment Plant



Figure 1: Before treatment



Figure 2: After treatment

A potable water treatment plant in Kuse (Japan) installed several LG Sonic systems in the sand filters to prevent the formation of biofouling. Filamentous algae grew abundant in the sand filters, creating problems with the taste of the water and clogging of the filters.

Results

After several weeks of treatment, it was visible that the number of filamentous algae has decreased. The filters were not clogged due to less biofouling formation and the maintenance of the filter beds could also be reduced.

- ✔ Reduction of biofouling formation
- ✔ Reduction of filamentous algae
- ✔ No more clogged filters